

# GEOMETRY AND SPATIAL SENSE: Geometric Properties

Grade 2	Grade 3	Grade 4
<b>Overall Expectation #1</b>		
- Identify two-dimensional shapes and three-dimensional figures and sort and classify them by their geometric properties	- Compare two-dimensional shapes and three-dimensional figures and sort them by their geometric properties	- Identify quadrilaterals and three-dimensional figures and classify them by their geometric properties, and compare various angles to benchmarks
<b>Specific Expectations</b>		
– Distinguish between the attributes of an object that are geometric properties and the attributes that are not geometric properties, using a variety of tools		
– Locate the line of symmetry in a two-dimensional shape		- Draw the lines of symmetry of two-dimensional shapes, through investigation using a variety of tools and strategies
– Identify and describe various polygons (i.e., triangles, quadrilaterals, pentagons, hexagons, heptagons, octagons) and sort and classify them by their geometric properties (i.e., number of sides or number of vertices), using concrete materials and pictorial representations	- Identify and compare various polygons (i.e., triangles, quadrilaterals, pentagons, hexagons, heptagons, octagons) and sort them by their geometric properties (i.e., number of sides; side lengths; number of interior angles; number of right angles)	- Identify and compare different types of quadrilaterals (i.e., rectangle, square, trapezoid, parallelogram, rhombus) and sort and classify them by their geometric properties
– Identify and describe various three-dimensional figures (i.e., cubes, prisms, pyramids) and sort and classify them by their geometric properties (i.e., number and shape of faces), using concrete materials		
– Create models and skeletons of prisms and pyramids, using concrete, and describe their geometric properties (i.e., number and shape of faces, number of edges)	– Construct rectangular prisms, and describe geometric properties (i.e., number and shape of faces, number of edges, number of vertices) of the prisms	- Identify and describe prisms and pyramids, and classify them by their geometric properties (i.e., shape of faces, number of edges, number of vertices), using concrete materials
	– Compare and sort prisms and pyramids by geometric properties (i.e., number and shape of faces, number of edges, number of vertices), using concrete materials	
	– Use a reference tool to identify right angles and to describe angles as greater than, equal to, or less than a right angle	- Identify benchmark angles (i.e., straight angle, right angle, half a right angle), using a reference tool and compare other angles to these benchmarks
	– Compare various angles, using concrete materials and pictorial representations, and describe angles as bigger than, smaller than, or about the same as other angles	– Relate the names of the benchmark angles to their measures in degrees

## GEOMETRY AND SPATIAL SENSE: Geometric Relationships

Grade 2	Grade 3	Grade 4
Overall Expectation #2		
- Compose and decompose two-dimensional shapes and three-dimensional figures	- Describe relationships between two-dimensional shapes, and between two-dimensional shapes and three-dimensional figures	- Construct three-dimensional figures, using two-dimensional shapes
Specific Expectations		
- Cover an outline puzzle with two-dimensional shapes in more than one way	- Solve problems requiring the greatest or least number of two-dimensional shapes needed to compose a larger shape in a variety of ways	
- Compose and describe pictures, designs, and patterns by combining two-dimensional shapes		
- Compose and decompose two-dimensional shapes	- Identify congruent two-dimensional shapes by manipulating and matching concrete materials	
	- Explain the relationships between different types of quadrilaterals	
		- Construct a three-dimensional figure from a picture or model of the figure, using connecting cubes
- Build a structure using three-dimensional figures, and describe the two-dimensional shapes and three-dimensional figures in the structure	- Identify and describe the two-dimensional shapes that can be found in a three dimensional figure	- Construct three-dimensional figures, using only congruent shapes
	- Describe and name prisms and pyramids by the shape of their base	- Construct skeletons of three-dimensional figures, using a variety of tools, and sketch the skeletons
		- Draw and describe nets of rectangular and triangular prisms
		- Construct prisms and pyramids from given nets

## GEOMETRY AND SPATIAL SENSE: Location and Movement

Grade 2	Grade 3	Grade 4
Overall Expectation #3		
- Describe and represent the relative locations of objects, and represent objects on a map	- Identify and describe the locations and movements of shapes and objects	- Identify and describe the location of an object, using a grid map, and reflect two-dimensional shapes
Specific Expectations		
- Describe the relative locations and the movements of objects on a map	- Describe movement from one location to another using a grid map	- Identify and describe the general location of an object using a grid system
- Draw simple maps of familiar settings, and describe the relative locations of objects on the maps	- Identify flips, slides, and turns, through investigation using concrete materials and physical motion, and name flips, slides, and turns as reflections, translations, and rotations	- Identify, perform, and describe reflections using a variety of tools
- Create and describe symmetrical designs using a variety of tools	- Complete and describe designs and pictures of images that have a vertical, horizontal, or diagonal line of symmetry	- Create and analyse symmetrical designs by reflecting a shape, or shapes, using a variety of tools, and identify the congruent shapes in the designs